1977

Herbicide screening. Soursob control in cereal crop.

J. R. Pierce

SUMMARY OF RESULTS
FIELD EXPERIMENTS
1977

J.R. PEIRCE
PLANT RESEARCH DIVISION

Title	:	Herbicide Screening. Soursob control in cereal crop.
Location	:	J. Miller, Beverley
Plot Size	:	40 m x 3 m.
Experimental Details	:	Crop - wheat cv. Gamenya. Chemical treatments applied 1.5 - 2.5 leaf stage of cereal growth. Volume of application 100 l/ha Soursob - Midstyled form

Treatments		Grain Yields t/ha
Diuron flowable	2.0 l/ha	1.611
Linuron	2.0 kg/ha	1.549
Graminon	1.5 kg/ha	1.489
Graminon Diuron	1.0 kg/ha) 2.0 kg/ha)	1.464
Linuron	1.0 kg/ha	1.449
Diuron	1.5 kg/ha	1.342
Graminon	2.0 kg/ha	1.325
Linuron	1.5 kg/ha	1.313
Diuron	1.5 kg/ha	1.285
Diuron	1.0 kg/ha	1.282
Diuron	2.5 l/ha	1.281
Diuron	1.0 l/ha	1.268
No treatment		1.191
Igran	1.5 kg/ha	1.176
Igran	2.0 kg/ha	1.142
Diuron	0.5 l/ha	1.135
Igran	1.0 kg/ha	1.029
Diuron	3.0 l/ha	0.999
Diuron	3.5 l/ha	0.979

LSD $\leq$ 0.05 = 0.350

Comments:

1. Flowable formulation of Diuron at 2 l/ha and Linuron at 2 kg/ha were only treatments to be significantly superior to the nil treated in increasing grain yields.

2. Cost of Diuron treatment (2 l/ha) = $8.50
   Cost of Linuron treatment (2 kg/ha) = $12.20.

3. Similar experiments conducted at Northam and Geraldton. No results taken from Northam trial due to dry seasonal conditions adversely affecting the crop. Results not available from Geraldton site.

.../2.

Title	:	Soursob Control in Cereals.
Location	:	(1) M. Hudson, Yelbeni (2) R. Evans, Doodlakine
Plot Size	:	40 m x 3 m.
Experimental Details	:	Crop - Wheat, Gamenya. Treatments applied to crops 1.5 - 3.0 leaf stage of growth. Soursob - both sites infested with short-styled form.

(1) M. Hudson, Yelbeni

	Treatments	Mean Grain Yields* t/h
1	0.5 l/ha Diuron	0.735
2	1.0 l/ha Diuron	0.703
3	1.5 l/ha Diuron	0.683
4	2.0 l/ha Diuron	0.630
5	2.5 l/ha Diuron	0.587
6	3.0 l/ha Diuron	0.567
7	Nil treatment	0.683

(2) R. Evans, Doodlakine

	Treatments	Mean Grain Yields* t/h
1	0.5 l/ha Diuron	0.148
2	1.0 l/ha Diuron	0.179
3	1.5 l/ha Diuron	0.179
4	2.0 l/ha Diuron	0.159
5	2.5 l/ha Diuron	0.170
6	3.0 l/ha Diuron	0.122
7	Nil treatment	0.154

* 3 replications

Comments:

1. Crops stressed by lack of moisture, especially Experiment (2), which was on heavy soils and sown too late.

2. There were no significant treatment differences.

.../3.

Title	:	Chemical Control of Oxalis purpurea L.
Location	:	B. Doncon, Beverley
Plot Size	:	40 m x 3 m.
Experimental Details	:	Treatments applied to pasture in May. Volume of application 100 l/ha.

Treatments			% Control Visual Rating
1	Diuron	1.0 l/ha	12
2	Diuron	1.5 l/ha	78
3	Diuron	2.0 l/ha	88
4	Dosanex	1.0 kg/ha	30
5	Dosanex	1.5 kg/ha	53
6	Dosanex	2.0 kg/ha	63
7	Linuron	1.0 kg/ha	88
8	Linuron	1.5 kg/ha	80
9	Linuron	2.0 kg/ha	80
10	Igran	1.0 kg/ha	58
11	Igran	1.5 kg/ha	53
12	Igran	2.0 kg/ha	53
13	Banex	0.5 l/ha	0
14	Banex	1.0 l/ha	17
15	Banex	1.5 l/ha	7
16	Brominil M	0.5 l/ha	7
17	Brominil M	1.0 l/ha	13
18	Brominil M	1.5 l/ha	23
19	Nil treatment		0

Comments:

1. Diuron 1.5 - 2.0 l/ha and Linuron 1.0 - 2.0 kg/ha show promise for use in cropping situations.

2. Plant counts will be taken during 1978 to determine plant reductions.

.../4.

Title : Chemical Control of Doveweed (Eremocarpus setigerus Benth.)

Location : J. Hill, Beverley

Plot Size : 20 m x 2 m.

Experimental Details : Treatments applied 9/12/1977.
Volume of application 100 l/ha.
Plant counts taken (1) before treatments applied (2) 4 weeks after spraying*.

	Treatment	Chemical product	Rate l/ha	Plants/m^2 transformed*	Retransformed Plants/m^2
1	2,4-D Amine 50%		1.6	6.29	39.06
2	2,4-D Amine 50%		3.2	4.23	17.39
3	2,4-D Amine 50%		4.8	4.34	18.34
4	2,4-D Ester 80%		1.0	7.54	56.35
5	2,4-D Ester 80%		2.0	3.54	12.03
6	2,4-D Ester 80%		3.0	1.21	00.96
7	Paraquat		1.0	8.11	65.27
8	Paraquat		2.0	7.81	60.49
9	Paraquat		3.0	4.69	21.50
10	Glyphosate		1.0	9.59	91.97
11	Glyphosate		2.0	9.59	91.97
12	Glyphosate		3.0	6.12	36.95
13	Brominil M		1.0	1.78	2.67
14	Brominil M		2.0	0.51	0.0
15	Brominil M		3.0	0.73	0.0
16	Nil treatment			10.38	107.24

$LSD \leq 0.05 = 3.02$

* Transformed mean calculated from data weighted to consider plant density before treatments applied.
Transformation -

$$\sqrt{X + 0.5}$$

Comments:

1. Early counts (4 weeks after spraying) indicate that Brominil M as low as 1 l/ha and 2,4-D Ester at 3 l/ha give excellent control. Later counts for 2,4-D may improve as many plants counted may die. However, because the possibility of viable seed being produced on these treated plants, the quick kill achieved with Brominil M would be favoured.